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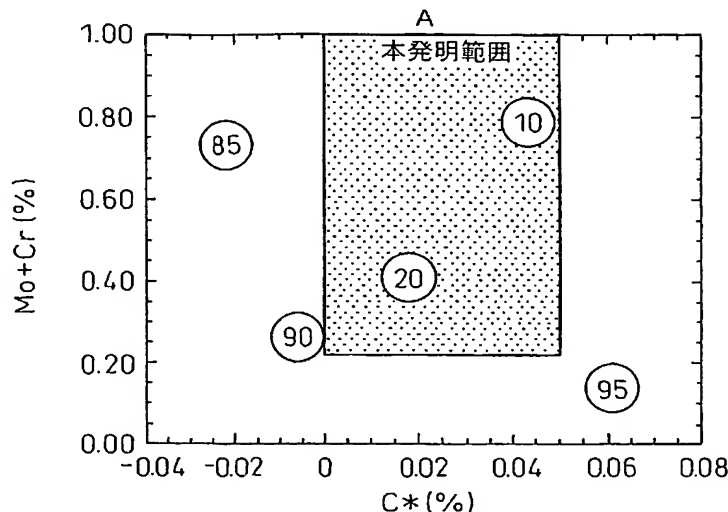
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[続葉有]

(54) Title: HIGH STRENGTH STEEL SHEET EXHIBITING GOOD BURNING WORKABILITY AND EXCELLENT RESISTANCE TO SOFTENING IN HEAT-AFFECTED ZONE AND METHOD FOR PRODUCTION THEREOF

(54) 発明の名称: 溶接熱影響部の耐軟化性に優れたバーリング性高強度鋼板およびその製造方法



A...SCOPE OF THE PRESENT INVENTION

(57) Abstract: A high strength steel sheet exhibiting good burning workability and excellent resistance to the softening in a heat-affected zone, characterized in that it has a chemical composition, in mass %: C: 0.01 to 0.1 %, Si: 0.01 to 2 %, Mn: 0.05 to 3 %, P ≤ 0.1 %, S ≤ 0.03 %, Al: 0.005 to 1 %, N: 0.0005 to 0.005 %, Ti: 0.05 to 0.5 %, Cr ≤ 0.5 %, Mo ≤ 0.5 %, with the proviso that $0 \% < C - (12/48Ti - 12/14N - 12/32S) \leq 0.05 \%$ and $Mo + Cr \geq 0.2 \%$, and the balance: Fe and inevitable impurities, and has a microstructure comprising ferrite or ferrite and bainite; and a method for producing the high strength steel sheet.

(57) 要約: 本発明は、溶接熱影響部の耐軟化性に優れたバーリング性高強度鋼板およびその製造方法を提供するもので、質量%にて、C : 0.01~0.1%、Si : 0.01~2%、Mn : 0.05~3%、P

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パ特許 (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI 特許 (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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— 国際調査報告書

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2文字コード及び他の略語については、定期発行される各PCTガゼットの巻頭に掲載されている「コードと略語のガイダンスノート」を参照。

$\leq 0.1\%$ 、 $S \leq 0.03\%$ 、 $Al : 0.005 \sim 1\%$ 、 $N : 0.0005 \sim 0.005\%$ 、 $Ti : 0.05 \sim 0.5\%$ 、を含み、さらに $0\% < C - (12/48Ti - 12/14N - 12/32S) \leq 0.05\%$ 、さらに、 $Mo + Cr \geq 0.2\%$ 、かつ $Cr \leq 0.5\%$ 、 $Mo \leq 0.5\%$ 、を満たす範囲で C、S、N、Ti、Cr、Mo を含有し残部が Fe 及び不可避免的不純物からなる鋼であって、そのマイクロ組織が、フェライト、またはフェライトおよびベイナイトからなることを特徴とする溶接熱影響部の耐軟化性に優れたバーリング性高強度鋼板。

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP03/15275

A. CLASSIFICATION OF SUBJECT MATTER
Int.Cl⁷ C22C38/00, 38/38, 38/58, C21D9/46

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
Int.Cl⁷ C22C38/00-60, C21D9/46-48

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Jitsuyo Shinan Koho 1922-1996 Toroku Jitsuyo Shinan Koho 1994-2004
Kokai Jitsuyo Shinan Koho 1971-2004 Jitsuyo Shinan Toroku Koho 1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
WPI

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|---|-----------------------|
| X | JP 2002-363685 A (NKK Corp.), 18 December, 2002 (18.12.02), Claims; Par. Nos. [0009], [0024], [0044], [0049], [0060] to [0064] (Family: none) | 1-9 |
| X | US 2002/162613 A1 (KOBE STEEL, LTD.), 07 November, 2002 (07.11.02), Claims & JP 2001-20039 A | 2-5, 7, 9 |
| A | JP 9-272923 A (NKK Corp.), 21 October, 1997 (21.10.97), (Family: none) | 1-9 |

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:
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"P" document published prior to the international filing date but later than the priority date claimed

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"&" document member of the same patent family

Date of the actual completion of the international search
02 March, 2004 (02.03.04)

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16 March, 2004 (16.03.04)

Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

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EV 321841256 US

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/15275

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
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| P,A | JP 2003-34825 A (NKK Corp.), 07 February, 2003 (07.02.03), (Family: none) | 1-9 |
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